Assignment 3

*Use proper legends, titles, labels, markings for all graphs

1. Plot basic trigonometric functions like cos, sin, tan, cot, cosine, secin single figure.

2. The position of particle is given by:

   $x(t)= 0.8t^3-2t^2-10t+13$ m

   Determine velocity and acceleration. Plot the same in the same graph with proper labels and legends. Use different colors and widths for the three graphs. Use legends to place in top rightmost corner. Try to place legends in different positions in the graph.

3. The magnitude M, on Richter scale, of an earthquake is given by:

   $M=\frac{2}{3} log \frac{E}{10^{4.4}}$

   Where E is energy in Joules released by earthquake. Make a plot of E(ordinate) vs M(abscissa) for

   $3 \leq M \leq 8$.Use logarithmic scale for E and linear scale for M. Label axes and add title to plot.

4. Plot the function $f(x)=\frac{1.5x}{x-4}$ for $-10 \leq x \leq 10$.Plot the function dividing domain into 2 vectors. Use **fplot** and **plot**.

5. Refer the table for sales data from years 2005 to 2010.Draw vertical &horizontalbar, stairs and stems plot.

2005	2006	‘07	‘08	‘09	‘10
8	10	20	18	19	22

   Sale is in millions.

6. The orbit of the planets around S is approx. by polar equation r=(e*P)/(1-e*cos(theta)). P and e are constants noted below in table.

Planet	P(x10^6 m)	e	**Planet**	P(x10^6 m)	e
M	269.2	0.206	E	896.4	0.0164
V	159	0.0677	M	242.1	0.0934